APPROVED BY DRAFTSMAN	O.G. FIG.	
	CLASS	SUBCLASS

FIGURE 1

Nucleotide Sequence of Human NNT-1 cDNA

```
  1  ATTAAAGCTT CGCCGGAGCC GCGGCTCGCC CTCCCACTCC GCCAGCCTCC
 51  GGGAGAGGAG CCGCACCCGG CCGGCCCAGC CCCAGCCCCA TGGACCTCCG
101  AGCAGGGGAC TCGTGGGGGA TGTTAGCGTG CCTGTGCACG GTGCTCTGGC
151  ACCTCCCTGC AGTGCCAGCT CTCAATCGCA CAGGGGACCC AGGGCCTGGC
201  CCCTCCATCC AGAAAACCTA TGACCTCACC CGCTACCTGG AGCACCAACT
251  CCGCAGCTTG GCTGGGACCT ATCTGAACTA CCTGGGCCCC CCTTTCAACG
301  AGCCAGACTT CAACCCTCCC CGCCTGGGGG CAGAGACTCT GCCCAGGGCC
351  ACTGTTGACT TGGAGGTGTG GCGAAGCCTC AATGACAAAC TGCGGCTGAC
401  CCAGAACTAC GAGGCCTACA GCCACCTTCT GTGTTACTTG CGTGGCCTCA
451  ACCGTCAGGC TGCCACTGCT GAGCTGCGCC GCAGCCTGGC CCACTTCTGC
501  ACCAGCCTCC AGGGCCTGCT GGGCAGCATT GCGGGCGTCA TGGCAGCTCT
551  GGGCTACCCA CTGCCCCAGC CGCTGCCTGG GACTGAACCC ACTTGGACTC
601  CTGGCCCTGC CCACAGTGAC TTCCTCCAGA AGATGGACGA CTTCTGGCTG
651  CTGAAGGAGC TGCAGACCTG GCTGTGGCGC TCGGCCAAGG ACTTCAACCG
701  GCTCAAGAAG AAGATGCAGC CTCCAGCAGC TGCAGTCACC CTGCACCTGG
751  GGGCTCATGG CTTCTGACTT CTGACCTTCT CCTCTTCGCT CCCCCCC
```

09645247.080501

FIGURE 2

Genomic sequences of the human NNT-1

```
   1  aacctgcgag tgggcctggc ggatgggatt attaaagctt cgccggagcc
  51  gcggctcgcc ctcccactcc gccagcctcc gggagaggag ccgcacccgg
 101  ccggcccagc cccagccccA TGGACCTCCG AGCAGgt--- ----------

      -----( >1 kb )----------------------------  tgaaaaccca

 151  aactagccct gctcttcata acatgacaag cagcgcccca tctgatacct
 201  aaaccgacca agtcacagcc ctccaactca ccctctgcct gcccagacct
 251  caccacatcc ttgstggact caaacctcaa ccgcactaaa tcaaccaaat
 301  cccaagtcta aactaatctg aaacttttaa agtaacccag tccttaaacc
 351  taacctagcc caatgccaat tatatctacc ctagccaaac cctaactgcc
 401  tttgccagtc caaagtgtcc actgaatcct caccttggtc ctcactgaaa
 451  atcccagaaa agcatatttc cccactgccc acatccctcc ttacagcacc
 501  caaccctggc ctctggactc ctggtatcct gggatgtcca aactctgcag
 551  tgccatcagc caacaagccc gactcgtcaa atgcacctct ctcccttcct
 601  gtccccaccc ttgcaggctg atggaaaggc ctcattgaag tccaactttt
 651  ccccacctaa caccaagaac ggggtgaacc tccacactgc caccgttccc
 701  tgagagtgag cactaaatct ccttcaatct aaccccaccc tacacttccc
 751  acactcagga atcacatcct agaatatacc caaaactaag ccccataagg
 801  cagcccgacc ctagtggtct aaccctatac cttgcttcct atgggtgagt
 851  ctgttcttgg cggccgcctc tctcctgctt cctcccttag agctgactgt
 901  gctcagcctg ccagctctga catgtgctgt ctcccaccct ctgactcccc
 951  tcaagctgca gtgggactgg aagactggca ggaagctagg gtacaactgg
1001  aacacaggca ggtcgacctg cagtccctag gcctggcccc gtccctccat
1051  gtacacacat atacatgttg gcacacacac agtggcacac atgccaaaga
1101  ctctctcagc tgacacacag atccattctc aagtatctac tgatagacac
1151  tcatgcgtgc caagtcctca tcctcaaaca tacacatgcc tctctttctc
1201  tcccgtcttg ccaggagtgt ttcccctcct ccatcccctc tgcctcccat
1251  ctggtgtccc accctcaccc cccacccagc ccaaggtggg gacagacacc
1301  tgaggggctg ccagctgctt ccccgtgtgg gcccgggccg cgctcatgct
1351  tctcgtccat cctgcccaca gGGGACTCGT GGGGGATGTT AGCGTGCCTG
1401  TGCACGGTGC TCTGGCACCT CCCTGCAGTG CCAGCTCTCA ATCGCACAGG
1451  GGACCCAGGG CCTGGCCCCT CCATCCAGAA AACCTATGAC CTCACCCGCT
```

Figure 2 (continued)

1501 ACCTGGAGCA CCAACTCCGC AGCTTGGCTG GGACCTATgt gagtatccag
1551 cgtaggaatc tgggagttgg ggaggagtga ggagttgggg aaagacagtc
1601 ctaaccgtgg agggttctgg taaatgatgg ggtgaggagg ggctctttgg
1651 ctcccaccag tccccctgtc tggtctatct cctgcccttc cctcttaggt
1701 ggccccccca cttccccatc cctggcccca ggactaggca tgtgggcagg
1751 cctcgcaccc gccttggccc attgccccac tggctgccag cccagccgcc
1801 cgcctccccc tgggggccgg ggaagtctcc tctgtttaca ccgtgttgtg
1851 gtgtctcttg cgcgggcggg gttgggtggg gacagagggg ccccacctcc
1901 catgcctgcg ttccagctcg cctctgcccc cagacctggg gccctgctgc
1951 tctggaccca ggggcctccc ttccgtctgc ctctcccatc ctagctgggc
2001 ctcctagggg ggtcatgggg gaaggggact gtagggaacc caggcagtag
2051 tggcaggggg tttagggtgt ggatggaggt tatgctgtaa ggatttgggg
2101 gtggtccaga ggtgttcaga gagcccagga gagaaggaag gagggttgga
2151 ggagccgagg caccatgggg aaccggcccc ctcttcccgt gttcctcttc
2201 cacatcccag accctactct ggagccaggg aaagaaaagg gaagaaggtg
2251 gcgggggagc tggctccagc cccaggatac accgaggaaa ttagtttgtc
2301 tctgtgcttg tcagcgtgtg aacctccccc tgggcccttg cctatcccag
2351 gcctctcccc ttgcttctcc cttctttccc agttatacat ctccctcatc
2401 cctttccctg ggccccagcc gctcccccga gggttggaaa gggctctgcc
2451 ctcttcccta taccatgctg tcttccatag ccttcctcct gtcctactca
2501 tgagactgcc tccatttctt ccttctgcaa ccctgctcct atcagctgaa
2551 cccttctttc ggagtgttag tgagtacccg tctctcccca gcccctcagc
2601 tggtgggcct gggtgtgtca gcggcaaatg gggctctggt tccaatgggc
2651 cactctcatc tctctcttgt tccttgtgca gaaaaccttt gcttcactcc
2701 actgccctct ctagttcccg accctttttc tctcctggct ttccctgcca
2751 aatttctcca aggagtggtc tacaccctct gcctccactt cctctccacc
2801 cactcacttc ttaacccccct gcaatctggc ttccaggccc cagcaatggt
2851 tctctccaag gtcgtcaggc acctccttgc caagcccgac agtgttttga
2901 aggctcattc tccttgctgt ctgttttgca gccacactgc tgagcgctgc
2951 tgccttctcg aactcctctt ccttggtctc tgcactctcc tgggccacct
3001 tctacctctc cagctcctcc aggctcctct tcctctctgt cctgccccca
3051 cagcgggcac tctcccaagg tttgcccacc cagccaatca gcacgtcctt
3101 cctgagcgtc ttgtgcgtct cctcctcctc ctttttctac gcctctccat
3151 tggagagctc accaccgcca ctgcttcaac tgtcacctgc atacaaatga

10096317.061501

Figure 2 (continued)

```
3201  tatccttatt ggaaaaactc agggaggcca tgaacaaaga agcctagcat
3251  ggagacaggg ccagtgtcag gggacacaaa aaatagaaac tttgggagca
3301  ggtatctcct tggtggtgag ccagcggctc tgccctcctc cttccccatc
3351  accctctcct tttcacagCT GAACTACCTG GGCCCCCCTT TCAACGAGCC
3401  AGACTTCAAC CCTCCCCGCC TGGGGGCAGA GACTCTGCCC AGGGCCACTG
3451  TTGACTTGGA GGTGTGGCGA AGCCTCAATG ACAAACTGCG GCTGACCCAG
3501  AACTACGAGG CCTACAGCCA CCTTCTGTGT TACTTGCGTG GCCTCAACCG
3551  TCAGGCTGCC ACTGCTGAGC TGCGCCGCAG CCTGGCCCAC TTCTGCACCA
3601  GCCTCCAGGG CCTGCTGGGC AGCATTGCGG GCGTCATGGC AGCTCTGGGC
3651  TACCCACTGC CCCAGCCGCT GCCTGGGACT GAACCCACTT GGACTCCTGG
3701  CCCTGCCCAC AGTGACTTCC TCCAGAAGAT GGACGACTTC TGGCTGCTGA
3751  AGGAGCTGCA GACCTGGCTG TGGCGCTCGG CCAAGGACTT CAACCGGCTC
3801  AAGAAGAAGA TGCAGCCTCC AGCAGCTGCA GTCACCCTGC ACCTGGGGGC
3851  TCATGGCTTC tgacttctga ccttctcctc ttcgctcccc cttcaaaccc
3901  tgctcccact ttgtgagagc cagccctgta tgccaacacc tgttgagcca
3951  ggagacagaa gctgtgagcc tctggccctt tcctggaccg gctgggcgtg
4001  tgatgcgatc agccctgtct cctccccacc tcccaaaggt ctaccgagct
4051  ggggaggagg tacagtaggc cctgtcctgt cctgtttcta caggaagtca
4101  tgctcgaggg agtgtgaagt ggttcaggtt ggtgcagagg cgctcatggc
4151  ctcctgcttc ttgcctacca cttggccagt gcccacccag cccctcaggt
4201  ggcacatctg gagggcaggg gttgaggggc caccaccaca catgcctttc
4251  tggggtgaag cccttgggct gccccactct ccttggatgg gtgttgctcc
4301  cttatcccca aatcactcta tacatccaat tcaggaaaca aacatggtgg
4351  caattctaca caaaaagaga tgagattaac agtgcagggt tggggtctgc
4401  attggaggtg ccctataaac cagaagagaa aatactgaaa gcacaggggc
4451  agggacagac cagaccagac ccaggagtct ccaaagcaca gagtggcaaa
4501  caaaacccga gctgagcatc aggaccttgc ctcgaattgt cttccagtat
4551  tacggtgcct cttctctgcc ccctttccca gggtatctgt gggttgccag
4601  gctggggagg gcaaccatag ccacaccaca ggatttcctg aaagtttaca
4651  atgcagtagc attttggggt gtagggtggc agctccccaa ggccctgccc
4701  cccagcccca cccactcatg actctaagtg tgttgtatta atatttattt
4751  atttggagat gttatttatt agatgatatt tattgcagaa tttctattct
4801  tgtattaaca aataaaatgc ttgccccaga acttagtctc tttgcccagc
4851  ctcacccctc ctggtgctca tcagactctt gccacccctg gctcccactc
```

Figure 2 (continued)

4901 cctgcttgcc tctggtggag ctgcacagag ctctgggaag aggccctctt

4951 cctccccgca ctggggcgat gggcgcacct cagacttacc cactgctgct

5001 gccaccacca acccccttgat ccctcagtcc tcccacacag cttctgtcca

5051 ccccaggttt ccctcacccc acctttgcta agtcttcctc a

FIGURE 5

Amino Acid Sequence of Murine NNT-1

```
-27                                1
MDLRAGDSWG MLACLCTVLW HLPAVPALNR TGDPGPGPSI QKTYDLTRYL   23

EHQLRSLAGT YLNYLGPPFN EPDFNPPRLG AETLPRATVN LEVWRSLNDR   73

LRLTQNYEAY SHLLCYLRGL NRQAATAELR RSLAHFCTSL QGLLGSIAGV  123

MATLGYPLPQ PLPGTEPAWA PGPAHSDFLQ KMDDFWLLKE LQTWLWRSAK  173

                              198
DFNRLKKKMQ PPAASVTLHL EAHGF*                            198
```

09637407.081503

FIGURE 4

Nucleotide Sequence of Murine NNT-1 cDNA

```
  1 TATTATTAAA GCTTCGCCGG AGCCGCGGCT CGCCCTCCCA CTCCGCCAGC
 51 CTCTGGGAGA GGAGCCGCGC CCGGCCGGCC CGGCCCCCAG CCCCATGGAC
101 CTCCGAGCAG GGGACTCGTG GGGGATGTTA GCTTGCCTAT GCACGGTGCT
151 GTGGCACCTC CCTGCAGTGC CAGCTCTTAA TCGCACAGGA GATCCAGGCC
201 CTGGCCCCTC CATCCAGAAA ACCTATGACC TCACCCGCTA CCTGGAGCAT
251 CAACTCCGCA GCTTAGCTGG GACCTACCTG AACTACCTGG GGCCCCCTTT
301 CAACGAGCCT GACTTCAATC CTCCTCGACT GGGGGCAGAA ACTCTGCCCA
351 GGGCCACGGT CAACTTGGAA GTGTGGCGAA GCCTCAATGA CAGGCTGCGG
401 CTGACCCAGA ACTATGAGGC GTACAGTCAC CTCCTGTGTT ACTTGCGTGG
451 CCTCAACCGT CAGGCTGCCA CAGCTGAACT CCGACGTAGC CTGGCCCACT
501 TCTGTACCAG CCTCCAGGGC CTGCTGGGCA GCATTGCAGG TGTCATGGCG
551 ACGCTTGGCT ACCCACTGCC CCAGCCTCTG CCAGGGACTG AGCCAGCCTG
601 GGCCCCTGGC CCTGCCCACA GTGACTTCCT CCAGAAGATG GATGACTTCT
651 GGCTGCTGAA GGAGCTGCAG ACCTGGCTAT GGCGTTCAGC CAAGGACTTC
701 AACCGGCTTA AGAAGAAGAT GCAGCCTCCA GCAGCTTCAG TCACCCTGCA
751 CTTGGAGGCA CATGGTTTCT GACCTCTGAC CCTTAACCCC CACACCTCCA
801 GGCCCAGTCA GCTGTGCTT
```

09631704.081501

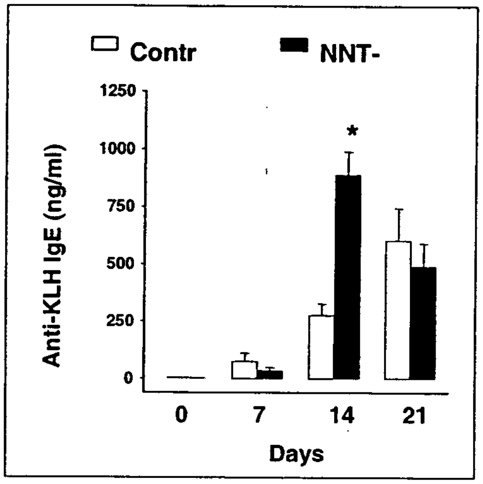
FIGURE 3

Amino acid Sequence of Human NNT-1 cDNA

```
           -27                                 1
            MDLR AGDSWGMLAC LCTVLWHLPA VPALNRTGDP GPGPSIQKTY   17

DLTRYLEHQL RSLAGTYLNY LGPPFNEPDF NPPRLGAETL PRATVDLEVW   67

RSLNDKLRLT QNYEAYSHLL CYLRGLNRQA ATAELRRSLA HFCTSLQGLL  117

GSIAGVMAAL GYPLPQPLPG TEPTWTPGPA HSDFLQKMDD FWLLKELQTW  167
                                      198
LWRSAKDFNR LKKKMQPPAA AVTLHLGAHG F*                      198
```

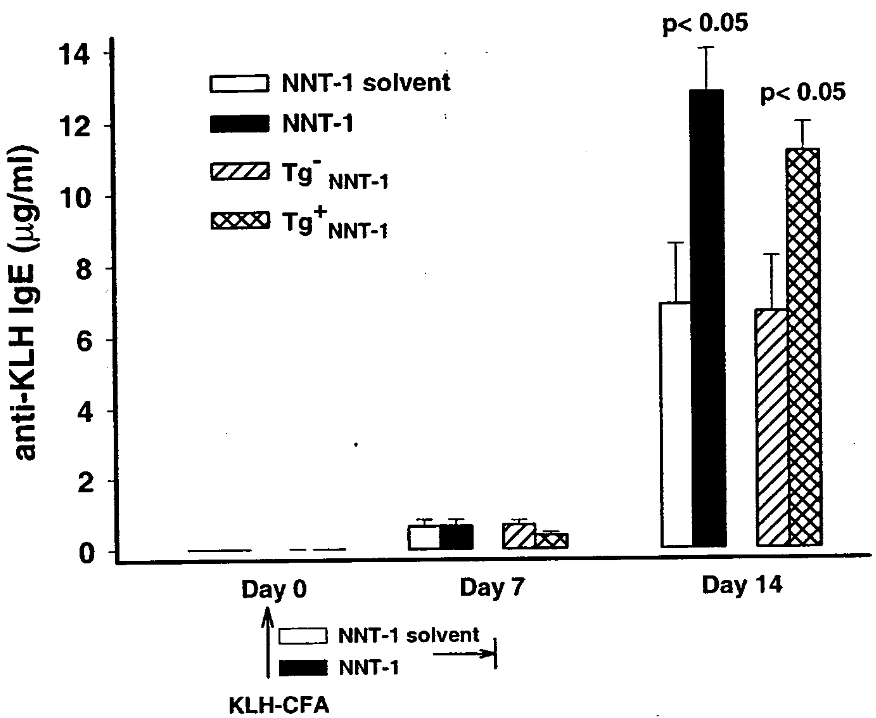
09603402.081501

FIGURE 7



09634704 .081601

FIGURE 6



09831402 .091501